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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,485	12/05/2003	Karel Hajmrle	T8-467813US	2078
<div>Arne I. Fors Gowling Lafleur Henderson LLP Suite 4900 Commerce Court West Toronto, ON M5L 1J3 CANADA</div>				
			EXAMINER LANG, AMY T	
			ART UNIT 3731	PAPER NUMBER
			MAIL DATE 01/23/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/727,485

Applicant(s)

HAJMRLE ET AL.

Examiner

Amy T. Lang

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-52 and 54-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-52 and 54-92 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/31/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 27-43, 60, and 76-92** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 27-43, 60, and 76-92 recite wherein the dry agglomerates are classified into an undersize particle fraction, a desired particle fraction, and an oversize particle fraction. It is the examiner's opinion that this phrasing is confusing since it is unclear as to what is the difference between a desired particle size fraction with an undersize and an oversize particle fraction.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. **Claims 27-29, 37-44, 45, 47, 54-61, 63, 67-69, and 71-75** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath (US 3,051,586) in view of Dorfman (US 5,122,182).

US '586 discloses a lubricant (see entire document) in the form of a coating or film applied by spraying (column 1, lines 10-13; column 3, lines 1-14). The lubricant is comprised of organic or inorganic binders and solid lubricants including graphite, molybdenum disulfide, boron nitride, and tungsten disulfide (column 1, lines 16-20; column 3, lines 18-33). The total amount of solid lubricant particles in the composition is disclosed as 80 parts by wt (Example 2, column 5). The total amount of resin binder is disclosed as 101.2 parts by wt (Example 2, column 5). Therefore the ratio of solid lubricant particles to binder is 0.79 ($=80/101.2$), which clearly overlaps the instant range of 19:1 to 1:19. Since US '586 discloses the use of either an organic or inorganic binder, and furthermore since the reference does not constrain the amount of inorganic binder to any particular value, it would have been obvious to use an inorganic binder in the same amount as the organic resin binder absent evidence to the contrary.

By adding 80 parts by wt of solid lubricant in a mixture comprised of a total of 1034.3 parts by wt, the amount of solid lubricant in the total mixture is 7.73% (Example 2, column 5). Therefore, the composition contains from 5 to 60 wt% solids.

US '586 discloses the addition of other components to the composition including a wetting agent and zinc chromate powder, where either one would act as a filler (Example 2, column 5). These components are also added in amounts less than 40 volume% of the solids, which clearly overlaps the instant claims.

US '586 discloses, in the method to produce the lubricant composition, the addition of water to the binder and solid lubricant mixture (column 3, lines 11-14). The mixture is then milled to a desired particle size cut.

US '586 is silent as to the specific method to mill the mixture.

US '182 also discloses a composition (see entire document) utilized for spraying a coating (column 1, lines 10-14). The composition is also comprised of a mixture of a binder, solid lubricants including molybdenum disulfide, graphite, and calcium fluoride, and water (column 1, lines 55-57; column 2, lines 33-36; column 6, lines 4-8, 26-27). The mixture is milled in a conventional process disclosed by first forming an aqueous slurry and then drying droplets to produce particles. The agglomerated particles are described as droplets (column 3, line 61), which clearly overlaps the instantly claimed rounded shape. The particle agglomerates are then classified to obtain a desired size (column 3, line 48 through column 4, line 16). This process would inherently produce an undersize and oversize particle fraction, where both are dispersed in the original liquid. US '182 discloses that the above process is useful and conventional (column 3, lines 48-58). In view of that, it would therefore have been obvious to utilize this same process in US '586.

Although US '586 is open to various binders (column 2, lines 27-30), US '586 does not specifically disclose the binder as non-dispersible.

US '182 also teaches the advantages of using an aluminum silicate clay or bentonite as a binder in the spray composition (column 3, lines 39-47). These non-dispersible binders are particularly advantageous when combined with metal for a coating in a turbine engine (column 3, lines 33-38), such as disclosed by US '586. Therefore, since US '586 also discloses the use of a binder in the spray coating composition, it would have been obvious to one of ordinary skill at the time of the invention for US '586 to utilize hydrous aluminum silicate or bentonite. Additionally, the binders of US '182 would inherently be stabilized above 850 degrees Celsius.

6. **Claims 32, 33, 35, 36, 48-52, 64, and 65** are rejected under 35 U.S.C. 103(a) as being unpatentable over Heath (US 3,051,586) in view of Dorfman (US 5,122,182), and Dorfman (US 5,506,055).

US '586 in view of US '182 discloses a method to produce a spraying composition comprised of a mixture of a binder, solid lubricant including boron nitride, and water.

US '586 does not specifically disclose the solid lubricant as hexagonal boron nitride.

US '055 also discloses a spray composition comprised of solid lubricants, including boron nitride (column 2, lines 40-42; column 3, lines 11-12). The boron nitride is further disclosed as hexagonal boron nitride and the produced spray composition is

shown to provide improved abrasability while still maintaining erosion resistance (column 2, lines 42-45; column 3, lines 11-20). In view of the advantage provided by the solid lubricant hexagonal boron nitride, it therefore would have been obvious to also utilize hexagonal boron nitride as the solid lubricant in US '586.

7. **Claims 27, 28, 30-32, 34, 40-44, 46, 47, 48, 50, 57, 62, 64-66, 70, 72, 74, and 75** are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (US 4,039,337) in view of Dorfman (US 5,506,055).

US '337 discloses a lubricating coating composition (see entire document) comprised of an aqueous mixture of solid lubricants including graphite, boron nitride, and tungsten disulfide and a silicate binder (column 2, lines 45-65). The amount of solid lubricant is disclosed from 5 to 70 wt%, while the binder is disclosed from 10 to 40 wt% (column 3, lines 16-19, 35-38). Therefore, the ratio of solid lubricant to binder clearly overlaps the instantly claimed range of 8:2. The total amount of solid lubricant in the composition is disclosed as 25.4 wt%, so that 5 to 60 wt% solids are present in the composition (Example 1, column 5).

Furthermore, US '337 discloses additional components in the composition including thixotropic agents, which inherently act as fillers (column 4, lines 57-59). These fillers are in an amount less than 40 volume% of the solid lubricants (Example 1, column 5).

US '337 teaches the composition as bound to a metal by a spraying process (Example III, column 6). However, US '337 is silent as to the specific method for producing the mixture.

US '055 also discloses a coating composition comprised of a mixture of solid lubricants and binder (column 2, lines 40-54; column 3, lines 24-25). The composition is produced by conventional methods that include stirring the mixture to produce a slurry and then drying the composition until agglomerates are formed (column 3, lines 20-39).

The method disclosed by US '055 teaches blending a mixture of fine powder constituents (column 3, lines 25-26). Therefore, the particles were inherently sized to a desired size and an oversized and undersized fraction would be produced. These fractions would have then been blended, as taught by US '055, and would inherently be non-dispersible in the original liquid. Additionally, the binders of US '182 would inherently be stabilized above 850 degrees Celsius.

US '337 is also silent as to the use of hexagonal boron nitride for the solid lubricant.

US '182 also teaches the advantages of using an aluminum silicate clay or bentonite as a binder in the spray composition (column 3, lines 39-47). These non-dispersible binders are particularly advantageous when combined with metal for a coating in a turbine engine (column 3, lines 33-38). Therefore, since US '337 also discloses the use of a silicate binder in the spray coating composition, it would have been obvious to one of ordinary skill at the time of the invention for US '337 to utilize hydrous aluminum silicate or bentonite.

Response to Arguments

8. Applicant's arguments with respect to claims 27-52, and 54-92 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

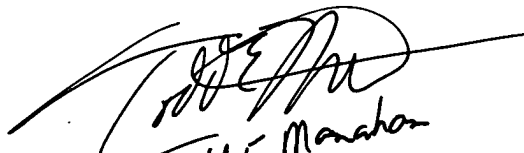
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy T. Lang whose telephone number is 571-272-9057. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on 571-272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

01/14/2008

AR


Todd E. Manahan
SPE 3731